WHAT IS CLAIMED IS:

1. A cathode active material composed of a compound having a general formula Li_xFePO_4 where $0 < x \leq 1.0$, and a carbon material, with a carbon content per unit weight being not less than 3 wt% and with a powder density being not lower than 2.2 g/cm^3.

2. The cathode active material according to claim 1 wherein the carbon material satisfies a condition that, with an intensity area appearing in a number of waves of 1350 to 1360 cm^{-1} and an intensity area appearing in the number of waves of 1570 to 1590 cm^{-1} in the Raman spectrometry being D and G, respectively, an intensity areal ratio of D and G (A (D/G)) is such that A (D/G)$\geq$ 0.30.

3. A non-aqueous electrolyte cell having a cathode including a cathode active material, an anode including an anode active material, and a non-aqueous electrolyte, said cathode active material being composed of a compound having a general formula Li_xFePO_4, where $0 < x \leq 1.0$, and a carbon material, with a carbon content per unit weight being not less than 3 wt% and with a powder density being not lower than 2.2 g/cm^3.

4. The non-aqueous electrolyte cell according to claim 3 wherein the carbon material satisfies a condition that, with an intensity area appearing in a number of waves of 1350 to 1360 cm^{-1} and an intensity area appearing in the number of waves of 1570 to 1590 cm^{-1} in the Raman spectrometry being D and G, respectively, an intensity areal ratio of D and G (A (D/G)) is such that A (D/G)$\geq$ 0.30.

5. The non-aqueous electrolyte cell according to claim 3 wherein said non-aqueous electrolyte is a solution-based non-aqueous electrolyte.

6. The non-aqueous electrolyte cell according to claim 3 wherein said non-aqueous electrolyte is a polymer-based non-aqueous electrolyte.

7. A method for the preparation of a cathode active material composed of a compound having a general formula Li_xFePO_4 where $0 < x \leq 1.0$, and a carbon material, with a carbon content per unit weight being not less than 3 wt% and with a powder density being not lower than 2.2 g/cm^3, comprising:

mixing a plurality of starting materials for synthesis for a compound represented by the general formula Li_xFePO_4, milling and sintering the resulting mixture and adding a carbon material at any time point in the course of the mixing, milling and sintering.

8. The method for the preparation of the cathode active material according to claim 7 wherein said carbon material is added before milling.

9. The method for a preparation of the cathode active material according to claim 7 wherein said carbon material is added after sintering and wherein said milling is carried out after addition of the carbon material.

10. The method for the preparation of the cathode active material according to claim 7 wherein such carbon material is used which satisfies a condition that, with an intensity area appearing in a number of waves of 1350 to 1360 cm^{-1} and an intensity area appearing in the number of waves of 1570 to 1590 cm^{-1} in the Raman

spectrometry being D and G, respectively, an intensity areal ratio of D and G (A (D/G)) is such that A (D/G)≥ 0.30.

11. The method for the preparation of the cathode active material according to claim 7 wherein said sintering is carried out in a temperature range of 400°C to 900°C.

12. A method for a preparation of a non-aqueous electrolyte cell including a cathode containing a cathode active material composed of a compound having a general formula Li_xFePO_4 where $0 < x \leq 1.0$, and a carbon material, with a carbon content per unit weight being not less than 3 wt% and with a powder density being not lower than 2.2 g/cm^3, an anode containing an anode active material, and a non-aqueous electrolyte, said method including mixing a plurality of starting materials for synthesis for a compound represented by the general formula Li_xFePO_4, milling and sintering the resulting mixture and adding a carbon material at any time point in the course of the mixing, milling and sintering.

13. The method for the preparation of a non-aqueous electrolyte cell according to claim 12 wherein said carbon material is added before milling.

14. The method for the preparation of the non-aqueous electrolyte cell according to claim 12 wherein said carbon material is added after sintering and wherein said milling is carried out after addition of the carbon material.

15. The method for the preparation of the non-aqueous electrolyte cell according to claim 12 wherein such carbon material is used which satisfies a condition that, with an intensity area appearing in a number of waves of 1350 to 1360 cm^{-1} and an intensity

area appearing in the number of waves of 1570 to 1590 cm^{-1} in the Raman spectrometry being D and G, respectively, an intensity areal ratio of D and G (A (D/G)) is such that A (D/G)≥ 0.30.

16. The method for the preparation of the non-aqueous electrolyte cell according to claim 12 wherein said sintering is carried out in a temperature range of 400°C to 900°C.

17. The method for the preparation of the non-aqueous electrolyte cell according to claim 12 wherein said non-aqueous electrolyte is a solution-based non-aqueous electrolyte.

18. The method for the preparation of the non-aqueous electrolyte cell according to claim 12 wherein said non-aqueous electrolyte is a polymer-based non-aqueous electrolyte.